

# Package ‘plotbb’

October 14, 2022

**Title** Grammar of Graphics for 'base' Plot

**Version** 0.0.6

**Description**

Proof of concept for implementing grammar of graphics using base plot. The `bbplot()` function initializes a 'bbplot' object to store input data, aesthetic mapping, a list of layers and theme elements. The object will be rendered as a graphic using base plot command if it is printed.

**Imports** graphics, magrittr, rlang, scales, methods, utils

**Suggests** stats, ape, aplot (>= 0.0.8), dplyr, ggplotify (>= 0.1.0),  
knitr, rmarkdown, prettydoc

**VignetteBuilder** knitr

**ByteCompile** true

**License** Artistic-2.0

**Encoding** UTF-8

**RoxygenNote** 7.1.1

**NeedsCompilation** no

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**Repository** CRAN

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as.bbplot	<i>as.bbplot</i>
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**Description**

convert a base plot function to a bbplot object

**Usage**

```
as.bbplot(fun)
```

**Arguments**

fun                    a function that plot something in base graphics

**Details**

the base plot function will be plotted as a canvas and users can apply theme and add layers to it

**Value**

A bbplot object

**Author(s)**

Guangchuang Yu

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bbplot	<i>bbplot</i>
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**Description**

bbplot

**Usage**

```
bbplot(data, mapping = bb_aes())
```

**Arguments**

data                    data  
mapping                variable mapping

**Details**

a proof of concept for grammar of graphics based on base plot. The bbplot class contains data (input data), mapping (aesthetic mapping), layer (a list of plot layers), theme (theme setting) and labs (label setting, including title, subtitle, x and y labels).

**Value**

bbplot object

**Author(s)**

Guangchuang Yu

**Examples**

```
library(plotbb)
p <- bbplot(mtcars, bb_aes(mpg, disp, col=factor(cyl)))
p + bb_grid(col='grey50', lty='dashed') + bb_point(pch=19)
```

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bb\_aes

*bb\_aes*

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**Description**

aesthetic mapping

**Usage**

```
bb_aes(x, y, ...)
```

**Arguments**

x	x variable
y	y variable
...	other mappings

**Details**

aesthetic mapping for bbplot

**Value**

enquo expression describing variables mapping to aesthetic attributes

**Author(s)**

Guangchuang Yu

bb\_grid                      *bb\_grid*

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**Description**

add grid lines

**Usage**

```
bb_grid(col = "lightgray", lty = par("lty"), lwd = par("lwd"), bg = TRUE)
```

**Arguments**

col	line color
lty	line type
lwd	line width
bg	whether plot the grid lines as background

**Value**

A modified bbplot object

**Author(s)**

Guangchuang Yu

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bb\_labs                      *bb\_labs*

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**Description**

change labels for bbplot

**Usage**

```
bb_labs(title = NULL, sub = NULL, xlab = NULL, ylab = NULL)
```

```
bb_title(title)
```

```
bb_sub(sub)
```

```
bb_xlab(xlab)
```

```
bb_ylab(ylab)
```

**Arguments**

title	title
sub	sub
xlab	xlab
ylab	ylab

**Details**

setting one or several of 'title', 'sub', 'xlab', and 'ylab'

**Value**

A modified bbplot object

**Author(s)**

Guangchuang Yu

**Examples**

```
library(plotbb)
p <- bbplot(mtcars, bb_aes(mpg, disp, col=factor(cyl))) + bb_point(pch=19)
p + bb_labs(title = "hello", sub = "just for demo",
            xlab="this is xlab", ylab = "this is ylab") +
  bb_title("hello world") # last one rules
```

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bb_lm	<i>layer</i>
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**Description**

layer

**Usage**

```
bb_lm(mapping = NULL, data = NULL, ...)

bb_point(mapping = NULL, data = NULL, position = "identity", ...)

bb_text(mapping = NULL, data = NULL, ...)

bb_tile(mapping = NULL, data = NULL, ...)
```

**Arguments**

mapping	aesthetic mapping
data	layer data
...	addition parameter for the layer
position	one of 'identity' or 'jitter'

**Details**

bbplot layers

**Value**

A modified bbplot object

**Author(s)**

Guangchuang Yu

**Examples**

```
library(plotbb)
p <- bbplot(mtcars, bb_aes(mpg, disp, col=factor(cyl))) +
  bb_point() + bb_lm(bb_aes(group=cyl), lwd=2)
```

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`bb_scale_col_palette` *bb\_scale\_col\_palette*

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**Description**

change col palette

**Usage**

```
bb_scale_col_palette(palette = NULL)
```

**Arguments**

palette	color palette
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**Value**

A modified bbplot object

**Author(s)**

Guangchuang Yu

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bb_theme	<i>bb_theme</i>
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**Description**

bbplot theme

**Usage**

bb\_theme(...)

bb\_theme\_expand(...)

bb\_theme\_grey(...)

bb\_theme\_deepblue(...)

**Arguments**

... parameters for graphics::par

**Details**

setting visual details of bbplot

**Value**

A modified bbplot object

**Author(s)**

Guangchuang Yu

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set_bb_theme	<i>set_bb_theme</i>
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**Description**

set bb\_theme

**Usage**

set\_bb\_theme(theme)

**Arguments**

theme bb\_theme

**Details**

setting `bb_theme` for ordinary base plot command. It internally use `par` to set global graphic parameters. Users need to explicitly call `unset_bb_theme()` to restore original setting.

**Value**

setting selected theme as default (has side effect and will affect other base plot)

**Author(s)**

Guangchuang Yu

**Examples**

```
library(plotbb)
set_bb_theme(bb_theme_deepblue)
bbplot(mtcars, bb_aes(mpg, disp, col=factor(cyl))) + bb_point(pch=19)
```

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<code>unset_bb_theme</code>	<i>unset_bb_theme</i>
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**Description**

`unset bb_theme`

**Usage**

```
unset_bb_theme()
```

**Details**

remove all the themes by `set_bb_theme`

**Value**

unset theme (i.e., restore `par` setting)

**Author(s)**

Guangchuang Yu



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